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$$C = \frac{rW}{a+b} \times 100$$

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$$D_x = \frac{L^2 + (DA)^2 - (DB)^2}{2L}$$

$$D_y = \frac{L^2 + (DA)^2 - (DB)^2}{2L}$$

$$e = \sqrt{(DA)^2 - x^2}$$

Excel

Alhagi- Annual grasses

<i>Alhagi camelorum</i>	%
<i>Bromus danthoniae, Bromus diandrus</i>	%
<i>Hordeum persica, Cousinia eringioides, Centaurea behen</i>	%
	%

<i>Daphne angustifolia</i>	%	Astragalus-Daphne	
<i>Astragalus redgii</i>	%		
<i>Gundelia tournefortii</i>	%		
<i>Echinops chardinii</i>	%		
<i>Agropyron bulbosum</i>	%		
<i>Carduus arabicus</i>	%		
<i>Festuca arundinaceae</i>	%	<i>Astragalus paralurges</i>	%
	%	<i>Daphne angustifolia</i>	%
		<i>Gundelia tournefortii</i>	%
Daphne-Gundelia		<i>Avena fatua</i>	%
		<i>Hordeum persica, Stipa pennata</i>	%
			%
		Amygdalus- Astragalus	
<i>Daphne angustifolia</i>	%		
<i>Gundelia tournefortii</i>	%		
<i>Astragalus zahrabi</i>	%		
<i>Cousinia tenella</i>	%		
<i>Agropyron bulbosum</i>	%		
<i>Festuca arundinaceae</i>	%	<i>Amygdalus fenzeliana</i>	%
	%	<i>Amygdalus kotschyi</i>	
		<i>Amygdalus scoparia</i>	
		<i>Astragalus xylobasis</i>	%
		<i>Gundelia tournefortii</i>	%
Cousinia-Onopordon		<i>Daphne angustifolia</i>	%
			%
		Daphne-Astragalus	
<i>Cousinia eringioides</i>	%		
<i>Onopordon acatholepis</i>	%		
<i>Bromus briziformis</i>	%		
<i>Echinops orientalis</i>	%		
	%		

Astragalus-Acantholimon***Acantholimon-Astragalus***

<i>Astragalus trigradis</i>	%
<i>Astragalus paralurges</i>	%
<i>Acantholimon tenuiflrum</i>	%
<i>Avena fatua</i>	%
	%

<i>Acantholimon venustum</i>	%
<i>Astragalus xylobasis</i>	%
<i>Hordeum persica</i>	%
<i>Bromus Briziformis</i>	%
<i>Stipa pennata</i>	%
	%

Amygdalus-Daphne***Chaerophyllum-Torilis***

<i>Amygdalus spp.</i>	%
<i>Daphne angustifolia</i>	%
<i>Astragalus spp.</i>	%
<i>Hordeum bulbosum</i>	%
<i>Gundelia tournefortii</i>	%
	%

<i>Chaerophyllum bolbosum</i>	%
<i>Torilis arvensis</i>	%
<i>Salvia syriaca</i>	%
<i>Astragalus bruguieri</i>	%
<i>Phlomis olivieri</i>	%
	%

Amygdalus-Gundelia***Astragalus-Stipa***

<i>Amygdalus spp.</i>	%
<i>Aegylops avata</i>	%
<i>Gundelia tournefortii</i>	%
<i>Hordeum persica</i>	%
	%

<i>Astragalus xylobasis</i>	%
<i>Stipa pennata</i>	%
<i>Acantholimon tenuiflrum</i>	%
<i>Festuca arundinaceae</i>	%
<i>Hordeum persica</i>	%
	%

Bromus-Avena

<i>Bromus spp.</i>	%
<i>Avena fatua</i>	%
<i>Hordeum bulbosum</i>	%
<i>Gundelia taurnefortii</i>	%
	%

Astragalus-Hordeum

<i>Astragalus spp.</i>	%
<i>Aegylops avata</i>	%
<i>Hordeum glaucum</i>	%
<i>Acantholimon</i>	%
<i>Curuiflourm</i>	%
	%

Astragalus-Gundelia-Hordeum

<i>Astragalus spp.</i>	%
<i>Gundelia tournefortii</i>	%
<i>Aegylops avata</i>	%
<i>Hordeum glaucum</i>	%
<i>Bromus diandrus</i>	%
	%

Gundelia-Hordeum

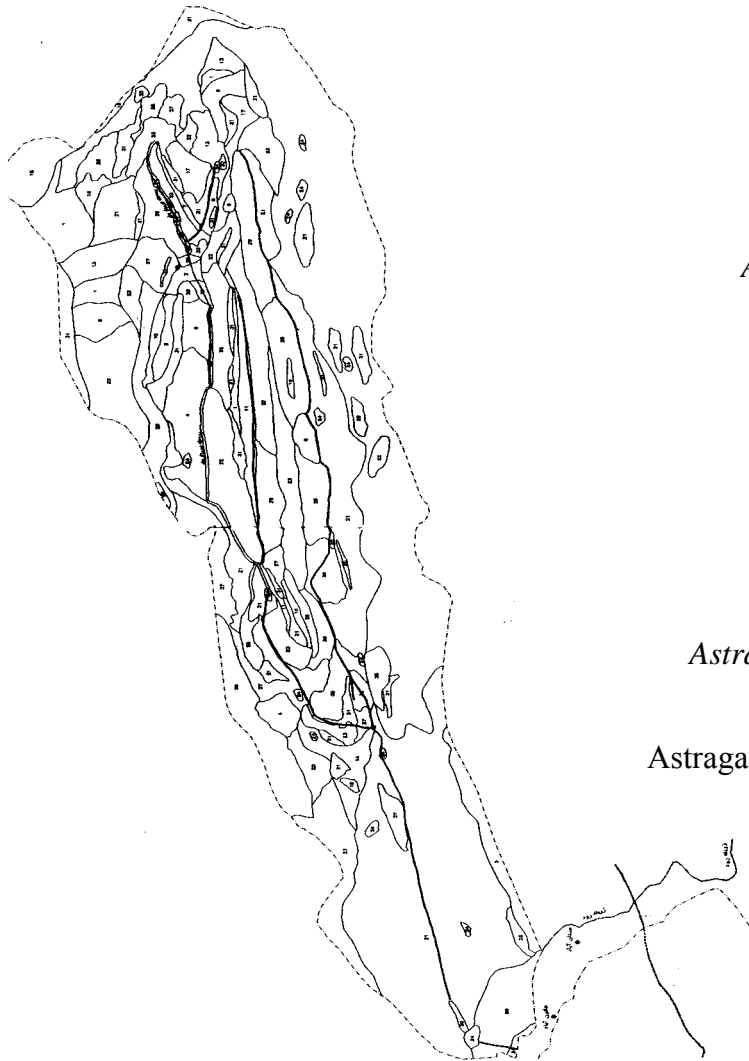
<i>Gundelia tournefortii</i>	%
<i>Hordeum violaceum</i>	%
<i>Bromus briziformis</i>	%
<i>Aegylops avata</i>	%
	%

Gundelia-Bromus

<i>Gundelia taurnefortii</i>	%
<i>Bromus diandrus</i>	%
<i>Hordeum bulbosum</i>	%
<i>Aristida abnormis</i>	%
	%

Astragalus-Gundelia-Bromus

<i>Astragalus spp.</i>	%
<i>Gundelia</i> <i>tournefortii</i>	%
<i>Bromus diandrus</i>	%
<i>Hordeum persica</i>	%
	%



Astragalus- Acantholimon

Daphne- Gundelia

Alhagi-Annual grasses

Amygdalus- Astragalus

Amygdalus- Gundelia

Amygdalus-Daphne

Acantholimon-Astragalus

Daphne- Astragalus

Astragalus-Daphne

Consinia-Onopordon

Astragalus-Hordeum

Astragalus- Stipa

Chaerophyllum-Torilis

Gundelia-Hordeum

Astragalus-Gundelia-Bromus

Bromus-Avena

Astragalus-Gundelia-Hordeum

Gundelia-Bromus

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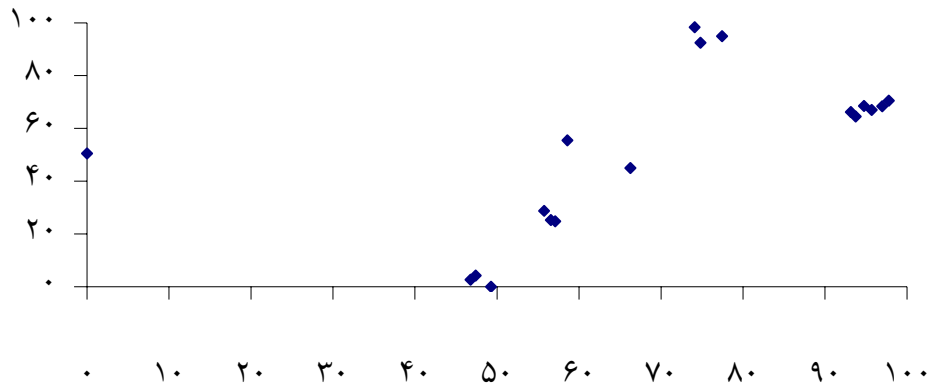
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Alhagi-Annual grasses

Astragalus-Daphne

Amygdalus-Astragalus

Daphne-Astragalus

Daphne-Gundelia

Consinia-Onopordon

Acantholimon-Astragalus

Chaerophyllum-Torilis

Astragalus-Stipa

Astragalus-Acantholimon

Amygdalus-Daphne

Amygdalus-Gundelia

Astragalus-Hordeum

Gundelia-Hordeum

Astragalus-Gundelia-Bromus

Bromus-Avena

Astragalus-Gundelia-Hordeum

Gundelia-Bromus

Chaerophyllum

()

Cousinia Amygdalus Gundelia Alhagi *Daphne*

Daphne Astragalus Chaerophyllum ١٧، ١٠، ١٣، ١٥،

() *Astragalus*

Amygdalus

Gundelia

Cousinia Alhagi

()	(m)	(%)		
<i>Alhagi</i>				
<i>Gundelia</i>				
<i>Amygdalus</i>				
<i>Cousinia</i>				
<i>Chaerophyllum</i>				
<i>Astragalus</i>				
<i>Daphne</i>				

Cousinia

Alhagi :

Amygdalus Gundelia

Daphne Astragalus Chaerophyllum Cousinia

Cousinia

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()

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Astragalus

Gundelia

Daphne

()

Acantholimon

Cousinia

()

Onopordon

Astragalus

Alhagi

) *Amygdalus spp.*

(Phytosociology)

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An Ecological Study of Vegetation Cover in Mahmoodabad River Basin (Shahindezh)

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Abstract

This study is aimed at finding ecological similarities between plant communities in the Mahmoodabad river basin, 5 km north of Shahindezh city, located between 36° 42' to 36° 51' north latitude and 46 °30' to 36° 49' east longitude, with an area of 26,826.95 hectares. The plant communities of the region were classified based on the floristic-physionomic method and their similarities were determined according to polar ordination (Berry and Curtis) and using Sorenson index. Physicochemical characteristics of the soil were also studied with respect to each plant community. In the course of floristic studies, 408 plant species belonging to 245 classes and 59 plant families were collected and identified. The research also identified 18 plant communities in this area. It was concluded that altitude, soil texture and biological factors were the most important factors determining change in vegetation communities.

Key words: Plant communities, Sorenson index, Ordination, Mahmoodabad River, Shahindezh, West Azarbaijan